REMARKS

Claim Amendments

Claims 1, 2, 72 and 74 have been amended so that the claimed pharmaceutical invention optionally comprises one or more other pharmaceutically active ingredients selected from the group consisting of an antibacterial, an anti-viral, an anti-inflammatory agent and an antibiotic. Support for this amendment is found on page 22, lines 23-27 of the subject specification.

Claim 1 has also been amended to delete "or a prodrug thereof". Claims 12 and 57 have been amended to correct the claim dependency.

Rejection Under 35 U.S.C. § 112, First Paragraph

The Examiner raised three grounds of rejection for failure to satisfy the Written Description Requirement. These rejections are addressed in the following three paragraphs.

The Examiner objected to the recitation of "a prodrug thereof" in Claim 1. This phrase has been cancelled, rendering the rejection moot.

The Examiner objected to the recitation "a salt thereof"in Claims 2 and 72-75. Support for this recitation is found on page 25, lines 33-34 of the specification. Withdrawal of the rejection is requested.

The Examiner referred to the recitation in Claim 1 that "G_2 is a group having a neutral or a net charge" and objected that there is no support for G_2 being neutral. The Examiner is respectfully referred to page 25, lines 33-34, which states that "[t]he pharmaceutical composition may be administered per se (neat) or in the form of a pharmaceutically acceptable salt" (emphasis in the original). It is evident from this description that the neutral form of the compound is also contemplated. Further support for this position is provided by Claim 2 as originally filed, which ***depended*** from Claim 1 and which recited "*N*-ethyl-*N'*-(3-dimethylaminopropyl) urea", a ***neutral*** compound. Thus, it is evident from these descriptions that the Applicants also intended to cover

the neutral form of the compound in Claim 1 and claims depending therefrom. Withdrawal of the rejection is requested.

Rejection of Claim 12 Under 35 § 112, Second Paragraph

The Examiner rejected that there is insufficient antecedent basis in Claim 12 for the phrase "sustained release delivery system". This error has been corrected by amending Claim 12 to depend from Claim 11.

Rejection Under 35 U.S.C. §§ 102(b) In View of Ito

The Examiner found unpersuasive Applicant's previous arguments that the EDU solution in Ito is not a pharmaceutically acceptable sterile liquid carrier. The Examiner stated the following in support of her conclusion:

> According to the present specification sterile liquid carrier includes water (see page 26, lines 23-26). The reference teaches EDU in water and, thus, is encompassed by the instant claims.

Page 26, lines 23-26 is reproduced below:

> Compositions suitable for parenteral administration conveniently comprise ***sterile aqueous preparations***, which can be isotonic with the blood of the recipient. Among the acceptable vehicles and solvents are water, Ringer's solution, and isotonic sodium chloride solution. (Emphasis Added).

Because this recitation states that suitable compositions are ***sterile aqueous preparations***, it is evident that non-sterile aqueous preparations are ***not*** contemplated. Therefore, the term "pharmaceutically acceptable carrier" in Claim 1 should be interpreted in light of this description to exclude water that is not sterile. Moreover, it is self-evident to one skilled in the art that a pharmaceutical composition must be sterile and that the term "pharmaceutically acceptable carrier" cannot include water that has not been sterilized. There is no reason to believe that the solutions disclosed in Ito use sterile water. Because Ito discloses no pharmaceutical utility for the solutions disclosed therein, there is no reason to modify the solutions disclosed by Ito to include sterile water. Therefore, the rejection should be withdrawn.

With respect to Claims 72 and 75, the claim language explicitly requires the carrier to be "sterile". As noted in the previous paragraph, there is no reason to believe that the water used in the assays disclosed by Ito are sterile. Because the assays disclosed by Ito would work equally well in water that was not sterilized and because it is far more convenient to use water that is not sterilized, it is in fact far more likely that sterilized water was not used. It is well established in Patent Law that a novelty rejection cannot be maintained if it is merely "possible" that the prior art discloses all of the claim limitations:

> The PTO Board erred in holding that a prior art reference anticipated by inherency an applicant's claim, which concerned a diaper fastening and disposal system. The Board's analysis rested on mere probability or possibility, i.e., that elements in the reference could be used other than as disclosed and for a different function, which is not sufficient to establish inherency. *In re Robertson,* 49 USPQ2d 1949 (Fed. Cir. 1999).
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> To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be so recognized by persons of ordinary skill. *In re Robertson,* 49 USPQ2d 1949 (Fed. Cir. 1999) quoting *Continental Can Co. v. Monsanto Co.* . . . Fed. Cir. 1991).
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> Inherency, however, may not be established by probabilities or possibilities, The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *In re Robertson,* 49 USPQ2d 1949 (Fed. Cir. 1999) quoting *In re Oelrich* 212 USPQ 323, 326 (CCPA 1981).

Because it cannot be determined whether Ito used sterilized water, the novelty rejection is improper and should be withdrawn.

Rejection Under 35 U.S.C. §§ 102(b) and 103(a) in View of Beuvery

A. Summation of the Teachings of Beuvery

Beuvery teaches the preparation of Meningococcal group C polysaccharide-tetanus toxoid conjugate as a vaccine. The conjugate is prepared by coupling tetanus toxoid and the polysaccharide with *N*-ethyl-*N'*-(diethylaminopropyl) carbodiimide. ***N-Ethyl-***

N'-(diethylaminopropyl) urea is formed as a by-product. Beuvery does not teach or suggest that N-ethyl-N'-(diethylaminopropyl) urea has any biological or pharmacological activity.

B. Applicant's Invention

Applicant's invention is a pharmaceutical composition comprising a designated anti-inflammatory agent (the compound represented by the structural formula in Claim 1; or *N*-ethyl-*N'*-(3-dimethylaminopropyl) urea in Claims 2, 72 and 74).

Claims 1, 2, 72 and 74 have been amended so that the pharmaceutical composition optionally comprises "one or more other pharmaceutically active ingredients selected from the group consisting of an antibacterial, an anti-viral, an anti-inflammatory agent and an antibiotic". Therefore, if a second pharmaceutically active ingredient is present, it is limited by this language to be an antibacterial, an anti-viral, an anti-inflammatory agent or an antibiotic. The claim language permits ***no other pharmaceutically active agent to be present.***

C. Response for Claim 1

Claim 1 as amended permits a second pharmaceutically active ingredient to be present in the pharmaceutical composition, but only one from a recited list (an antibacterial, an anti-viral, an anti-inflammatory agent and an antibiotic).

In Beuvery N-ethyl-N'-(diethylaminopropyl) urea is a by-product formed from the preparation of Meningococcal group C polysaccharide-tetanus toxoid conjugate. Therefore, N-ethyl-N'-(diethylaminopropyl) urea is always present in combination with the Meningococcal group C polysaccharide-tetanus toxoid conjugate, which is therefore a second pharmaceutically active ingredient. However, the Meningococcal group C polysaccharide-tetanus toxoid conjugate is a vaccine and is therefore not a member of the recited list in Claim 1 (an antibacterial, an anti-viral, an anti-inflammatory agent and an antibiotic). Claim 1 and claims depending therefrom are therefore novel in view of Beuvery.

Beuvery teaches no pharmaceutical utility for N-ethyl-N'-(diethylaminopropyl) urea. It is merely present as a by-product in the preparation of the desired conjugate. Therefore, Beuvery provides no reason to prepare a pharmaceutical composition with N-ethyl-N'-(diethylaminopropyl) urea as the sole active ingredient. Similarly, Beuvery provides no reason

to combine N-ethyl-N'-(diethylaminopropyl) urea with an antibacterial, an anti-viral, an anti-inflammatory agent and an antibiotic. Therefore, the subject matter of Claim 1 and claims depending therefrom are also non-obvious in view of the teachings of Beuvery.

Although the mutagenic potential of N-ethyl-N'-(diethylaminopropyl) urea is determined in Beuvery, a detailed experimental procedure is not provided. Thus, it cannot be determined whether a pharmaceutical composition meeting the limitations of the current Claim 1 was used.

C. Response for Claims 2 and 72

Claims 2 and 72 are directed to solid and aerosol pharmaceutical compositions. These compositions comprise *N*-ethyl-*N'*-(3-dimethylaminopropyl) urea methiodide. Optionally one or more other pharmaceutically active ingredients may be present, but only from a recited list (an antibacterial, an anti-viral, an anti-inflammatory agent and an antibiotic).

The compositions in Beuvery which comprise *N*-ethyl-*N'*-(3-dimethylaminopropyl) urea methiodide are all liquid and additionally comprise Meningococcal group C polysaccharide-tetanus toxoid conjugate. Beuvery discloses no pharmaceutical utility for *N*-ethyl-*N'*-(3-dimethylaminopropyl) urea, which is present merely as a by-product from the preparation of the desired conjugate. Therefore, Beuvery provides no reason to prepare a solid or aerosol pharmaceutical composition comprising *N*-ethyl-*N'*-(3-dimethylaminopropyl) urea without the toxoid conjugate. It also provides no reason to prepare a solid or aerosol composition with *N*-ethyl-*N'*-(3-dimethylaminopropyl) urea in combination with an antibacterial, an anti-viral, an anti-inflammatory agent or an antibiotic. Therefore, Claims 2, 72 and claims depending therefrom are novel and non-obvious in view of Beuvery.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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